

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: DUNCAN LAKE	Lake Area (ha):	46.26
Town: OSSIPPEE	Maximum depth (m):	7.0
County: Carroll	Mean depth (m):	3.6
River Basin: Saco	Volume (m ³):	1678000
Latitude: 43°42'22" N	Relative depth:	0.9
Longitude: 71°06'29" W	Shore configuration:	1.12
Elevation (ft): 573	Areal water load (m/yr):	1.68
Shore length (m): 2700	Flushing rate (yr ⁻¹):	0.50
Watershed area (ha): 138.4	P retention coeff.:	0.83
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

9 January 1996

26 July 1995

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 75%	CHRYOSOPHAERELLA 70%
	#2	COELOSOPHAERIUM 10%	MELOSIRA 8%
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			3.98
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 35%	NAUPLIUS LARVA 19%
	#2	NAUPLIUS LARVA 28%	POLYARTHRA 19%
	#3		KERATELLA 18%
ROTIFERS/LITER		54	138
MICROCRUSTACEA/LITER		28	86
ZOOPLANKTON ABUNDANCE (#/L)		86	254
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			3.6
BOTTOM DISSOLVED OXYGEN (mg/L)		9.4	0.0
BACTERIA (E. coli, #/100 ml)	#1		15
	#2		< 1
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m³) : None
Anoxic volume (m³) : 62000

CHEMICAL:

Lake: DUNCAN LAKE

Town: OSSIPPEE

	9 January 1996		26 July 1995		
DEPTH (m)	2.0	4.0	2.0		5.0
pH (units)	6.1	5.8	6.9		6.6
A.N.C. (Alkalinity)	5.1	5.0	5.1		5.6
NITRATE NITROGEN	< 0.10	< 0.10	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.25	0.25	0.55		0.45
TOTAL PHOSPHORUS	0.004	0.003	0.010		0.013
CONDUCTIVITY (μ mhos/cm)	115.4	116.6	112.8		109.3
APPARENT COLOR (cpu)	24	26	18		28
MAGNESIUM			0.59		
CALCIUM			3.9		
SODIUM			16.8		
POTASSIUM			0.83		
CHLORIDE	30	30	30		30
SULFATE	3	3	3		2
TN : TP	63	83	55		35
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1995

D.O. S.D. PLANT CHL TOTAL CLASS

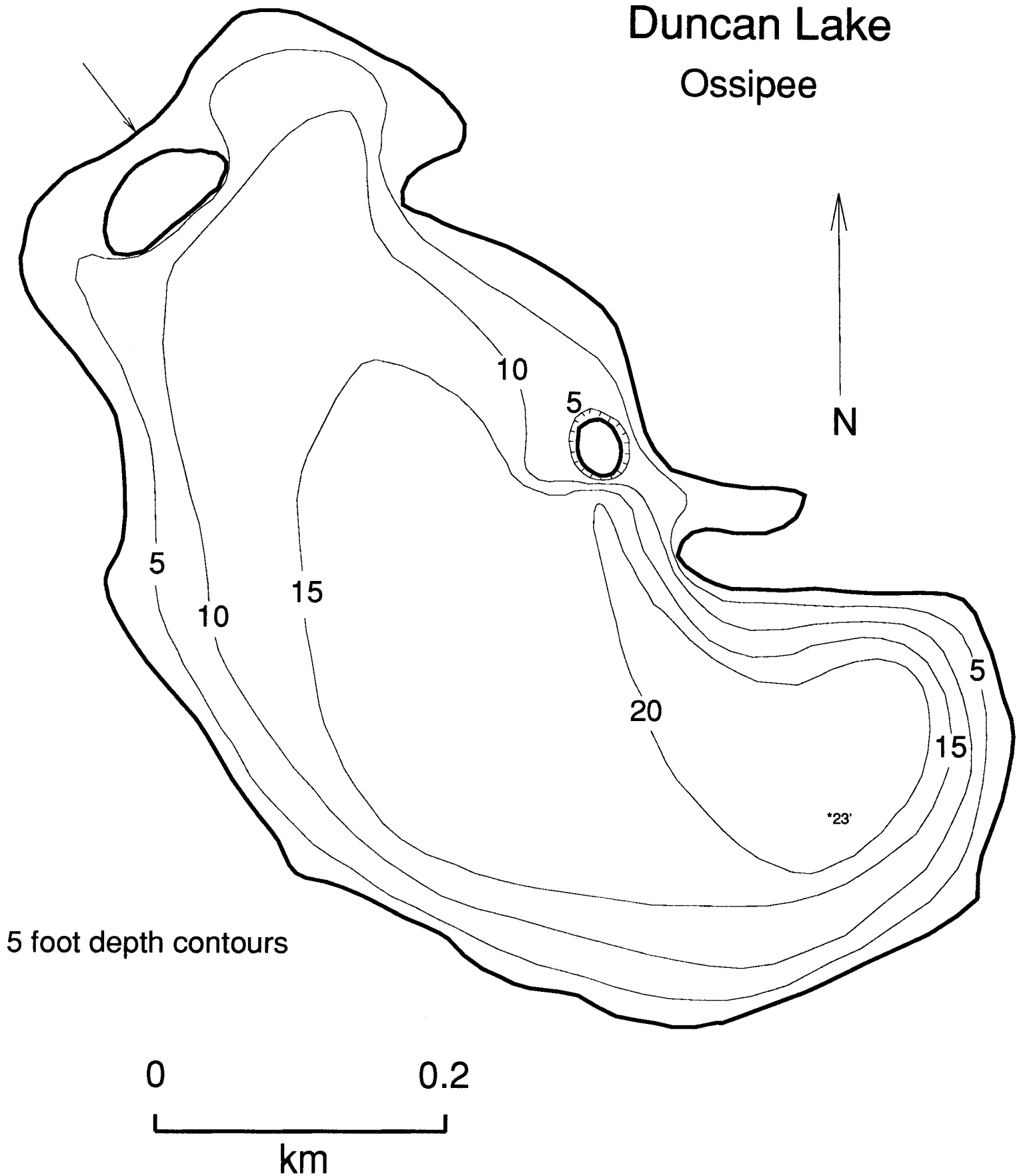
**	2	0	0	2	Oligo.
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COMMENTS:

1. This lake was previously surveyed and classified in 1979. There was little change in the trophic indicators between the two years. The mesotrophic rating in 1979 was due to assigning trophic points for dissolved oxygen depletion even though the pond was only weakly stratified with no hypolimnion.
2. The lake has 10 mph speed limit for boats except between the hours of 12:00 noon and 4:00 p.m.
3. Boat ramp was present with limited parking.

Duncan Lake

Ossipee



FIELD DATA SHEET

LAKE: DUNCAN LAKE	TOWN: OSSIPEE
DATE: 07/26/95	WEATHER: HOT, HAZY & HUMID

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
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DATE: 07/26/95	WEATHER: HOT, HAZY & HUMID

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
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SECCHI DISK (m):      3.6                COMMENTS:
BOTTOM DEPTH (m):     6.0
TIME:      1130

*Dissolved oxygen values are in mg/L
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BOTTOM DEPTH (m):     6.0
TIME:      1130

*Dissolved oxygen values are in mg/L
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BOTTOM DEPTH (m): 6.0
TIME: 1130

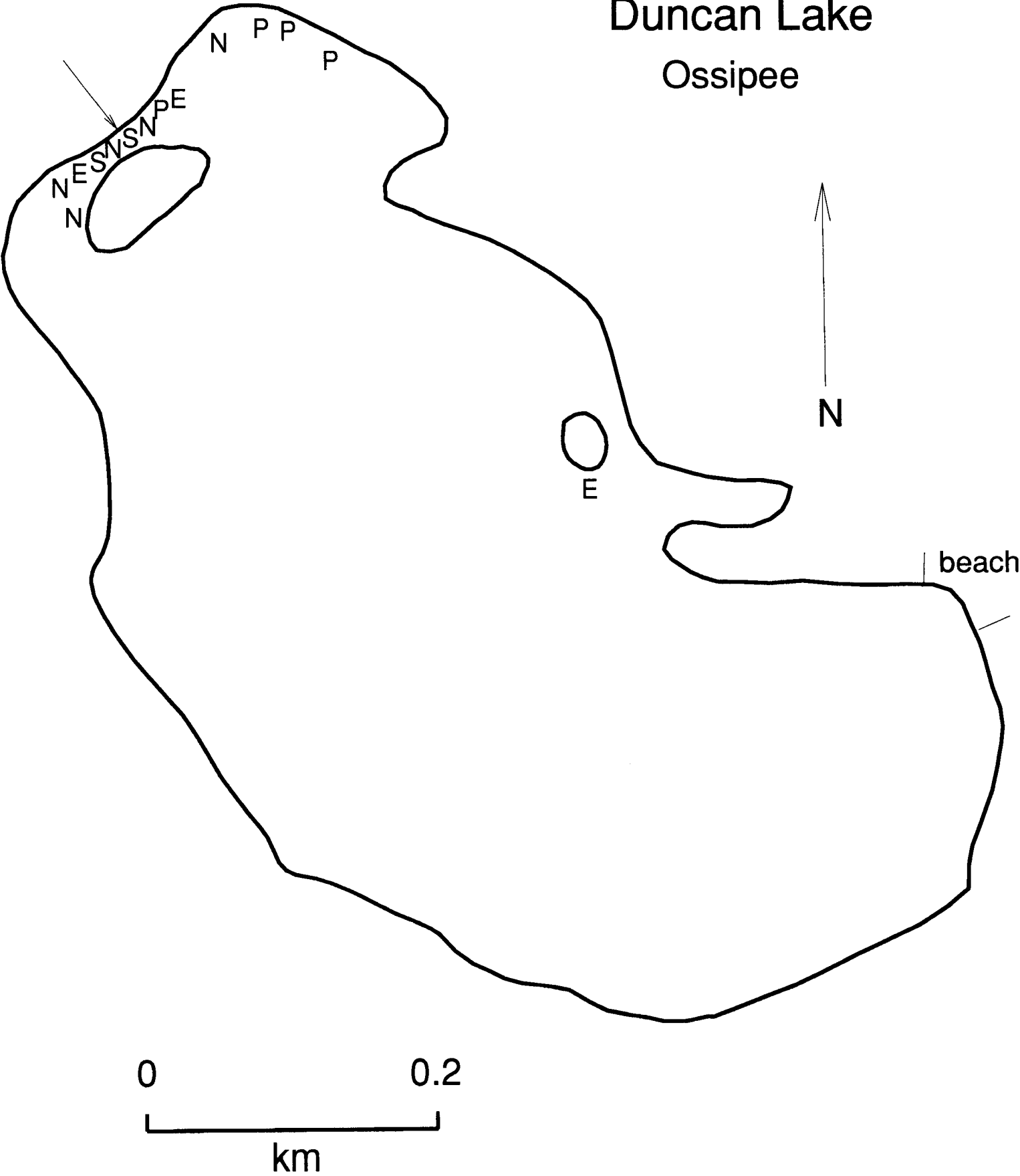
*Dissolved oxygen values are in mg/L

TIME: 1130

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Duncan Lake
Ossipee



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